

KURES, H.; VEJMOLOVA, J.

The principles of respiratory mechanics. Acta univ. carol. [Med] no.3:  
339-352 '61.

1. Ustav patologické fyziologie lékařské fakulty hygienické University  
Karlovy v Praze, přednosta prof. MUDr. J. Skladal.

(RESPIRATION physiol) (LUNGS physiol)

KURES, H.; ERBEN, K.; PROCHAZKA, D.

The biological action of xenon. Cas.lek.cesk 100 no.15:466-471  
14 Ap '61.

1. Ustav patologické fyziologie lek. fakulty hygienické KU v Praze.

(XENON pharmacol)



KURES, H.; MACEK, M.; VEJMOLOVA, J.

On the significance, possibilities and methods for the examination of respiratory mechanism. Cesk. pediat. 17 no.5/6:401-405 Je '62.

1. Katedra nemocnicni pediatrie fakulty detskeho lekarstvi University Karlovy v Praze, vedouci prof. MUDr. J. Svejcar, DrSc.

(RESPIRATION in inf & child)

MACEK, M.; KURES, H.; VEJMOLOVA, J.; SPICAK, V.

Some aspects of the examination of pulmonary elasticity in asthmatic children. *Cesk. pediat.* 17 no.5/6:406-408 Je '62.

1. Katedra nemocneni pediatrie fakulty detskeho lekarstvi University Karlovy v Praze, vedouci prof. MUDr. J. Svejcar, DrSc. Odd. telo- vychovneho lekarstvi, vedouci MUDr. M. Macek, CSc.

(LUNGS physiol) (ASTHMA in inf & child)

HNÍK, I.; KUREŠ, H.; MACEK, M.

Effect of artificial resistance on the respiration in children. Česk.  
pediat. 17 no.5/6:409-411 Je '62.

1. Katedra nemocniční pediatrie fakulty dětského lékařství University  
Karlovy v Praze, vedoucí prof. MUDr. J. Svejcar, DrSc.

(ASTHMA in inf & child) (RESPIRATION physiol)

KURES, H.

Lung elasticity determination as a diagnostic aid. Cesk. pediat.  
20 no.3: 239-242 Mr '65

1. Pediatric Faculty of Charles University, Prague.

KURPE, H.; MAZEK, M.; VAVRA, J.; VEJNOLOVA, J.

Ventilatory mechanics in diffuse lung fibrosis. Cesk. pediat.  
20 no.3:375-378 Mr '65

1. Pediatric Faculty of Charles University, Prague.

SOURCE, I.

Model general repairs of a turbine in the Ervenice Electric-Power Plant.  
p. 60. ENERGETIKA. (Ministerstvo paliv a energetiky. Hlavni sprava  
elektraren) Praha. Vol. 5, no. 2, Feb. 1955.

SOURCE: East European Accessions: List, Vol. 5, no. 9, September 1956

KURES, J.; CHVALA, M.; SVOBODA, V.

Gasification of coal-washing residues from Ostrava. p. 359.

ENERGETIKA. (Ministerstvo energetiky a Ceskoslovenska vedecka technicka spolecnost pro energetiku pri Ceskoslovenska akademii ved) Praha, Czechoslovakia. Vol. 9, no. 7, July 1959.

Monthly list of East European Accessions (EEAI) IC, vol. 9, no. 1, Jan. 1960.

Uncl.

KURES, J., inz.

Saving fuel and power is an element of the struggle for more economical management in national economy. Paliva 41 no.9:365-366 S '61.

1. Ministerstvo paliv a energetiky, Praha.

KREBS, Jiri, inz.

Emanuel Dvorak, obituary. Uhl 6 no.1:24 Ja'64.

KURES, Jiri, inz.

Operation of a boiler heated by ARS unscreened anthracite.  
Energetika Cz 13 no.12:655-656 D '63.

1. Ministerstvo paliv, Praha.

KUPES, V.; LAT, J.

Polarographic determination of nitrites in a protein medium. p. 208

FRYSL, POTRAVIN. Praha, Czechoslovakia, Vol. 10, no. 4, April 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 7, July 1959.  
Uncl.

KURESHOV, A.S.

This will improve track maintenance. Put' i put.khoz. 5  
no.11:25-26 N '61. (MIRA 14:12)

1. Nachal'nik Krasnoyarskoy distantzii puti, st. Krasnoyarsk,  
Vostochno-Sibirskoy dorogi.  
(Railroads--Maintenance and repair)

KURET, N.

Legends about Triglav Mountain. IN German. p.6. THROUGH YUGOSLAVIA.  
(Turisticki savez Jugoslavije) Beograd. Vol. 4, no. 2, 1955.

SOURCE: East European Accessions List, (EEAL), Library of Congress,  
Vol. 5, No. 6, June 1956

KURET, N.

Harlequin in Bohinj; the masquerade character of saplatnik in Zgornja dolina. p. 237.  
(Slovenski Etnograf. Vol. 9, 1956, Yugoslavia)

SO: Monthly List of East European Accessions (EEAL) LS, Vol. 6, no. 7, July 1957, Uncl.

PRINAR, Premysl; KURKTOVA, Vera; NOVAKOVA, Olga; ROUBAL, Frantisek; SPLICHAL,  
Alois

Health conditions of uranium ore sorters. Pracovní. lek. 12 no.3:  
125-129 Ap '60.

1. Zavodni ustav narodniho zdravi Jachymovskych dolu, n.p.,  
Pribram.  
(URANIUM)

KOPCOVA, A.; KURKTS, V.K.

Improving the method for producing different soil temperatures  
for plant research. Izv.Kar.1 Kol'.fil.AN SSSR no.4:82-85  
'59. (MIRA 13:5)

1. Institut biologii Karel'skogo filiala AN SSSR.  
(Soil temperature) (Botanical research)

KOROVIN, A.I.; DROZDOV, S.N.; NOVITSKAYA, Yu.Ye.; KOMULAYNEN, A.A.; KURETS, V.K.

Effect of frosts on the yield and some physiological processes in  
spring wheat. Dokl. AN SSSR 136 no.4:979-981 F '61. (MIRA 14:1)

1. Institut biologii Karel'skogo filiala Akademii nauk SSSR.  
Predstavleno akademikom A. L. Kursanovym.  
(Wheat) (Plants, Effect of temperature on)

FOROVIN, A.I.; VOROB'YEV, V.A.; KURDIA, V.S.

Thermal-vegetative chambers with the regulation of soil and  
air temperature for experiments with plants. Izv. SO AN SSSR  
no.128 Ser. biol. mod. nauk no.3(141-144) '64. (MIRA 18:6)

1. Vostochno-Sibirskiy Biologicheskiy Institut Sibirskogo  
otdeleniya AN SSSR, Irkutsk.

KUREV, G. A.

USSR/Miscellaneous - Philosophy

Card 1/1 Pub. 77 - 9/23

Authors : Kurev, G. A., Cand. in Phil. Sci.

Title : Was there a beginning to the universe?

Periodical : Nauka i Zhizn' 21/10, 23-25, Oct 1954

Abstract : Issue is taken with scientists who find that all processes of matter and energy proceed in accordance with rigid natural laws but require a super-natural creation as a beginning. The author finds no evidence of a beginning or an end nor any limitations to time or space.

Institution : ...

Submitted : ...

KUKELICH, E. S.

KUREVICH, N.F.

Stellar photoelectric impulse spectrophotometer. Astron. tsir.  
no. 157:12-13 P '55. (MLRA 8:10)  
(Spectrophotometer)

KUREYCHIK, L. A.  
USSR/Chemistry - Oxidation

Card 1/1 Pub. 151 - 8/38

Authors : Pansevich-Kolyada, V. I., and Kureychik, L. A.

Title : Investigation of alcohol oxides (oxidoles). Part 2.- Derivation and properties of alpha,beta-alcohol oxides of the aliphatic series

Periodical : Zhur. ob. khim. 24/2, 231-234, Feb 1954

Abstract : The oxidation of 2,4,5-trimethylhexene-2-ol-4 and 2,4-dimethyldecene-2-ol-4 with  $\text{AcH}_2\text{O}_2$  and the characteristics of alpha,beta-alcohol oxides, obtained as result of the oxidation, are described. The oxidation was carried out in absolute ether at 20-25°. Exposure of 2,4,5-trimethyl-oxido-2,3-hexanol-4 to the effects of acetic anhydride resulted in acetylation of the alcohol group without any change to the oxide ring. Exposure of the alpha,beta-alcohol oxides to the effects of anhydrous  $\text{ZnCl}_2$  resulted in the splitting of the alcohol oxides into isobutyric aldehyde and homologous ketones. Eleven references: 9-USSR and 2-German (1860-1952).

Institution : Academy of Sciences Byeloruss-SSR, Institute of Chemistry, Laboratory of Organic Chemistry

Submitted : October 2, 1953



MeOCH<sub>2</sub>, L 11

CH <sup>4</sup>  
 Preparation of some ethers with allylic position of a  
 double bond. V. I. Pansovich-Kolyada, Z. B. Idel'chik,  
 and L. A. Kurcikov. *Zhur. Obshchei Khim.* 25, 1451-3  
 (1954). ~~to 6.5 g.~~ 2,4-dimethyl-2-hexene-4-ol in 20 ml.  
 MeOH was added 5 ml. 1:5 H<sub>2</sub>SO<sub>4</sub>, yielding after several  
 min. a 2-layered mixt. After diln. the upper layer gave  
 70% 2,4-dimethyl-4-methoxy-2-hexene, b<sub>p</sub> 40°, bp 147-8°, n<sub>D</sub><sup>20</sup>  
 1.4513, d<sub>4</sub> 0.8102°. Use of EtOH gave 60% Me<sub>2</sub>C:CHCMe<sub>2</sub>:  
 (OEt)Et, b<sub>p</sub> 53.5°, n<sub>D</sub><sup>20</sup> 1.4307, d<sub>4</sub> 0.8140; allyl alc. gave  
 53.4% Me<sub>2</sub>C:CHCMe<sub>2</sub>(OCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>)Et, b<sub>p</sub> 53-5°, n<sub>D</sub><sup>20</sup>  
 1.4130, d<sub>4</sub> 0.8201. Similarly MeOH and PhCH:CHCH<sub>2</sub>:  
 MeOH gave 91.3% PhCH:CHCH<sub>2</sub>MeOMe, bp 114-17°, n<sub>D</sub><sup>20</sup>  
 1.5554, d<sub>4</sub> 0.9067. G. M. Koschunov.

(2)

Inst. Chem. AS BelSSR

KOREYCHIK, A. A.

PANSEVICH-KOLYADA, V.I., ABLOVA, V.A., KUREYCHIK, L.A.

Research in the field of oxido compounds. Part 7. Preparation  
and properties of phenyl substituted  $\alpha,\beta$ - and  $\beta,\gamma$ -alcohol oxides.  
Zhur.ob.khim. 25 no.13:2448-2453 D '55. (MLRA 9:3)

1. Institut khimii Akademii nauk Belorusskoy SSR.  
(Alcohol)

KOMAROV, V.S.; LEVINA, S.A.; KUREYCHIK, L.A.

Effect of the nature of the medium on the catalytic conversion  
of acetone into diacetone alcohol. Dokl. AN BSSR 4 no. 5:206-209  
My '60. (MIRA 13:10)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.  
Predstavleno akademikom AN BSSR N.F. Yermolenko.  
(Acetone) (Propanone)

KUREYEV, A.M., inzh.

Experience in chemical nickel plating. Sudostroenie 24 no.5:58

My '58.

(MIRA 11:6)

(Nickel plating)

SVIRIDOV, N.K.; KUREYEV, N.S.; VEKSLER, Kh.N.

Book reviews. Vop. med. khim. 11 no.6:86-88 N-D '65.  
(MIRA 18:12)

1. Submitted March 1, 1965 (for Sviridov, Kureyev).
2. Submitted March 9, 1965 (for Veksler).

KUREYEVA, N. S.

"Nitrogen and Mineral (Ca and P) Metabolism in Working Horses in Relation to the Type and Method of Feeding." Min. Higher Education USSR, Leningrad Veterinary Inst. Leningrad, 1955. (Dissertation for the Degree of Candidate in Agricultural Sciences)

SO: Knizhnaya Letopis', No. 22, 1955, pp 93-105

SVIRIDOV, N.K.; KUREYEVA, N.S.

Reviews. Vop. med. khim. 11 no.4:108-110 J1-Ag '65.

(MIRA 18:8)

KUREYKO, S.M.

Semiautomatic machine for fastening output wires of strain  
gauges. Trudy NPI 107:59-62 '60. (MIRA 14:3)  
(Electric wiring)

KUREYKO, S.M.

Low-inertia resistance thermometer. Trudy NPI 149:97-99 '63.

Determining the oil-layer thickness in a bearing under alternating loading. Irid.:101-104 (MIRA 17:4)

S/263/62/000/020/002/006  
E194/E135

AUTHORS: Agarkov, A.P., Fomenko, A.I., and Kureyko, S.M.  
TITLE: The preparation and calibration of heat resistant pick-ups  
PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk, Izmeritel'naya tekhnika, no.20, 1962, 11, abstract 32.30.91. (Tr. Novocherk. politekhn. in-ta, 127, 1961(1962), 57-61).  
TEXT: Heat-resistant pick-ups based on potassium glass are at present widely used to measure static stresses that are set up in components which operate in a high temperature zone. Cements for heat resistant pick-ups based on potassium liquid glass are of good technological properties, their sole disadvantage being their poor electrical insulating properties at high temperature. This disadvantage is overcome by introducing lead oxide PbO which reduces the ionic conductivity of the cement because of the influence of heavy ions. The procedures for making and calibrating the heat-resistant pick-ups are described. 3 figures.

Card 1/1 [Abstractor's note: Complete translation.]

KUREYKO, V. G. I NYIS'EDOV, E.S.

26636 Zlektrokardiograficheskie izmeneniya pri eksperimental'nom diffuznom glomerulonefrite. Trudy fak. terapii kliniki (Ivan. Gos. Med. IN-T) VYP3, 1949, s. 75-79 3 let. zhurn st. No. 35

SO: LETOPIS' NO. 35, 1949

KUREYKO, S.M.

Designing large-diameter flanges according to limit loads.

Trudy NPI 126:39-47 '61.

(MIRA 15:12)

(Flanges)

KUREYKO, S.M.

Thermal analysis and experimental determination of the  
performance of sliding bearings, Trudy NPI 126:49-57  
'61. (MIRA 15:12)

(Bearings (Machinery))

*KUREZAFW, A.S.*

AID P - 5016

Subject : USSR/Electronics

Card 1/1 Pub. 89 - 1/14

Authors : Daniel'-Bek, V., S. Kurfirst, and N. Roginskaya

Title : Thermoelectrogenerator TGK-10

Periodical : Radio, #9, 13-14, S 1956

Abstract : The authors describe the starting of small-serial production of thermoelectrogenerators of the TGK-10 type, with 10-12 watt capacity, and destined for feeding radiocenters of the KRU-2 type in small collective farms. The authors describe the thermoelectrogenerators in detail. Three drawings.

Institution : None

Submitted : No date

APRIL/ADDITIONS

1951-52, Yearly Statement No. 1

Input and output data for state of Illinois

1951-52, Yearly Statement No. 1

Card 1

L 13562-65  
ACCESSION NR: AP4046685

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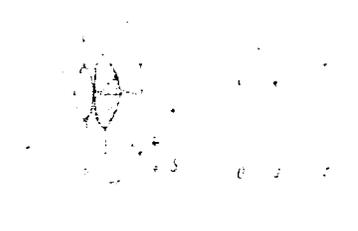
... for a common-base circuit are developed. The effects of the  
... saturation current.

... alloy wire. base ...

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WASHINGTON FIELD OFFICE

SECRET



Transmittal of [illegible]  
[illegible]

Card 3-3

KURGACHEVA, A.M.

Principles of the strawberry exposition arrangement in  
the Main Botanical Garden. Biul. Glav. bot. sada no.53:  
82-87 '64. (MIRA 17:6)

1. Glavnyy botanichesk'y sad Akademii nauk SSSR.

BERNSHTEYN, Ye.B., tekhniki, KUROAK, V.F., elektromonter

Some causes for damages of VM-35 oil circuit breakers. Energetik  
8 no.5:19-20 My '60. (MIRA 13:8)  
(Electric circuit brakors)

KURGALIMOVA, G.G.

Phylogeny of Gaudryina, Gaudryinellae. Paleont. zhur. no.3:121-123  
1974. (MIRA 18:2)

1. Vsesoyuznyy aerogeologicheskii trest.

KURGALIMOVA, G.G.; PRUSOVA, I.A.

Division of the Paleogene sediments of northern Kyzyl Kum  
and the southeastern part of the Turgay trough according to  
the Foraminifera fauna. Biul. MOIP. Otd. geol. 39 no.2:70-80  
Mr-Ap '64. (MIRA 19:1)

KURGAN, B.; Hillers, S.; Saldabola, N.

A method for the preparation of 5 nitropyromucic acid. In Russian. p. 49.

LATVIJAS PSR ZINATNU AKADEMIJA. VESTIS. RIGA, LATVIA. No. 3, 1959

Monthly List of East European Accessions. (EEAI) LC, Vol. 9, no. 2,  
Feb. 1960 Uncl.

ACC NR: AP6015388 (A)

SOURCE CODE: UR/0409/65/000/001/0011/0014

AUTHOR: Kurgan, B. V.; Giller, S. A.; Gruze, A. A.

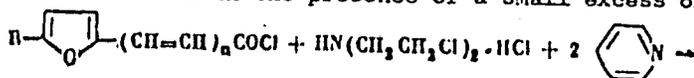
ORG: Institute of Organic Synthesis, Academy of Sciences, Latvian SSR, Riga (Institut organicheskogo sinteza Akademii nauk Latvviyskoy SSR, Riga)

TITLE: N, N-bis(2-Chloroethyl)amides and N, N-bis(2-chloroethyl)hydrazides of carboxylic acids of the furan series

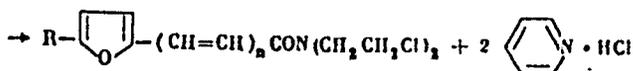
SOURCE: Khimiya geterotsiklicheskih sovedineniy, no. 1, 1965, 11-14

TOPIC TAGS: hydrazine derivative, organic amide

ABSTRACT: A method for the preparation of both N, N-bis(2-chloroethyl)amides and N, N-bis(2-chloroethyl)hydrazides of carboxylic acids of the furan series was found to be the reaction of acid chlorides with amine hydrochloride (I) or hydrazine hydrochloride (II) in chloroform in the presence of a small excess of pyridine:



I



Card 1/2

UDC: 547.725+542.95+547.23

2/2/1124  
 APPROVED FOR RELEASE: 06/19/2000

KURGAN, B.V.; GILLER, S.A.; GRUZE, A.A.

$\beta$ -Hydroxyethylhydrazides of furancarboxylic acids. Zhur. ob. (MIRA 17:9)  
 khim. 34 no.8:2664-2667 Ag '64.

1. Institut organicheskogo sinteza A.: LatvSSR.

KURGAN, D. K.

AUTHORS:

Gudriniyetse, E. Yu., Kurgan, D. K.,  
Vanag, G. Ya

79-11-38/56

TITLE:

2-Nitro-5-Phenylcyclohexandion -1,3 and its Derivatives  
(2-Nitro- 5-fenilitsikloheksandion -1,3 i yego  
proizvodnyye).

PERIODICAL:

Zhurnal Obshchey Khimii, 1957, Vol. 27, Nr 11, pp. 3087-3092,  
(USSR)

ABSTRACT:

In connection with the author's investigations in the field of the nitroderivatives of cyclic  $\beta$ -ketones they examined 5-phenylcyclohexandion - 1,3 which in its structure resembles 5,5-dimethylcyclohexandion - 1,3. The nitroderivative of this hexandion was hitherto unknown. 5-phenylcyclohexandion 1,3 is produced by condensation of benzeneacetone with malinic acid residues. The authors improved the method described in publications by reducing the duration of condensation from 7 hours to 15-30 minutes. The end product obtained in sufficient purity did not need to be recrystallized. The nitration took place according to the pattern used in the case of 5,5-dimethylcyclohexandion - 1,3. The aqueous solution of the synthesized 2-nitro-5-phenylcyclohexandion - 1,3 has strong acid properties and displaces

Card 1/2

79-11-28/56

2-Nitro 5-Phenylcyclohexandion -1,3 and its  
Derivatives

the carbonic acid from the carbonates, like hydrogen sulfide from sulfides. Therefore the salt formation easily takes place. Some salts of nitrophenylcyclohexandion with organic bases were produced. Thus the synthesis of 5-phenylcyclohexandion -1,3 was improved and 2-nitro 5-phenylcyclohexandion -1,3 hitherto not described in publications was obtained. The following derivatives of this compound were also produced: salts with anorganic and organic bases; 2-halogen -2-nitro -5-phenylcyclohexandion -1,3; monosemicarbozone, the monoxim and the hydrogen chloride salt of 2-amino - 5-phenylcyclohexandion -1,3. There are 1 table, and 19 references, 4 of which are Slavic.

ASSOCIATION: Latvian State University (Latviyskiy gosudarstvennyy universitet).

SUBMITTED: October 31, 1956

AVAILABLE: Library of Congress

Card 2/2 1. 2-Nitro-5 phenylcyclohexandion-1,3-Derivatives

GUDRINIYETSE, E. [Gudriniece, E.] (Riga); IYEVIN'SH, A. [Ievins, A.] (Riga);  
VANAG, G. [Vanags, G.] (Riga); KURGAN, D. [Kurgan, D.] (Riga).

Research in the field of cyclic arylazo- $\beta$ -diketones. IV. Metallic  
complexes of phenylazodimedons. Vestis Latv ak no.9:101-105 '59.  
(EEAI 9:10)

1. Akademiya nauk Latvyskoy SSR, Institut khimi.  
(Aryl groups) (Ketones) (Dimethylcyclohexanedione)  
(Metals) (Phenyl group) (Azo compounds)  
(Complex compounds) (Nickel) (Cobalt)  
(Copper) (Silver)

KURGAN, Jerzy

Early results of the treatment of newly detected and previously untreated pulmonary tuberculosis. Gruzlica 33 no.6:491-494  
Je 165.

1. Z Państwowego Sanatorium Przeciugrudliczego w Głucholazach  
(Dyrektor: lek. med. K. Szmyt).

ACC NRI AP6023085

(A, N)

SOURCE CODE: PO/0082/66/000/004/0020/000

AUTHOR: Kurgan, Lucjan (Lt. junior grade; Master engineer)

ORG: none

TITLE: Operation of combustion engines and the extension of their running periods between overhauls

SOURCE: Przegląd morski, no. 4, 1966, 20-29

TOPIC TAGS: combustion engine, maintenance, marine engine, lubricant, fuel

ABSTRACT: Basic principles for the efficient operation of marine engines are discussed. Trained personnel only should be employed for engine operation and all technological rules should be strictly observed. The effect of sour fuels on engine wear is shown and fuels should be analyzed for physical and chemical standards. Proper conditions of combustion and lubrication are required. Effects of hydrodynamic lubricants, and effects of insufficient cooling or overcooling on wear and thermal stress are explained. Draining of lubricants should be carried out in required periods. Inspection and maintenance of intake manifolds and air filters are needed for efficient engine operation. Orig. art. has: 4 figures.

SUB CODE: 21, 10 / 13 / SUBM DATE: none

Card 1/1

KURGAN, N.A.

State of otorhinolaryngological organs in bronchial asthma patients.  
Zhur. ush., nos. i gorl. bol. 22 no.1:69-73 Ja-F '62. (MIRA 15:5)

1. Iz kafedry bolezney ukha, gorla i nosa (nachal'nik - zasluzhenny  
deyatel' nauki prof. K.L.Khilov) Voenno-meditsinskoy ordena Lenina  
akademii imeni Kirova.  
(ASTHMA) (OTORHINOLARYNGOLOGY)

ZARUBIN, Aleksandr Ivanovich, podpolkovnik; KURGAN, V.G., podpolkovnik, red.,  
DOZHDEV, I.M., tekhn.red.

[Promotion of knowledge of military equipment in the unit] Voenno-  
tekhnicheskaja propaganda v chasti. Moskva, Voen.izd-vo M-va  
obor. SSSR, 1958. 93 p. (MIRA 12:6)  
(Military education)

ANTONENKO, A.I., polkovnik; KOLOTOV, V.I., kapitan 1 ranga v otstavke;  
KURGAN, V.G., podpolkovnik, red.; VOLKOVA, V.Ye., tekhn.red.

[For dynamic political indoctrination; collection of articles  
about experience in mass propaganda in the Soviet Army and  
Navy] Za boevuiu politicheskuiu agitatsiiu; sbornik statei  
ob opyte agitatsionno-massovoi raboty v Sovetskoj Armii i  
Voenno-Morskoi Flote. Moskva, Voen.izd-vo M-va obor. SSSR,  
1959. 239 p. (MIRA 12:7)

(Russia--Armed forces--Education, Nonmilitary)

ROSHCHIN, Ivan Illarionovich; KURGAN, V.G., podpolkovnik, red.; KONOVALOVA,  
Ye.K., tekhn.red.

[Eternally in the ranks] Navechno v stroiu. Moskva, Voen.izd-vo  
M-va obor.SSSR. Vol.2. 1959. 163 p. (MIRA 13:4)  
(Heroes)

YEGOROV, N.S., polkovnik, red.-sostavitel'; KURGAN, V.G., polkovnik,  
red.; MIKHEYEVA, L.P., tekhn.red.

[The press and communist education in the armed services]  
Pechat' i kommunisticheskoe vospitanie voinov. Moskva, Voen.  
izd-vo M-va obr.SSSR, 1960. 190 p. (MIRA 13:12)  
(Journalism, Military)  
(Russia--Armed forces--Education, Nonmilitary)

PODOPRIGORA, Fedor Iozefich, polkovnik; KURGAN, V.G., polkovnik, red.;  
BUKOVSKAYA, N.A., tekhn.red.

[Taking into consideration the personality of each serviceman  
is the most important part of educational work] Chelovek  
s imenem i familiei - glavnoe v vospitatel'noi rabote. Moskva,  
Voen.izd-vo obor.SSSR, 1961. 116 p. (MIRA 14:12)  
(Russia--Armed forces) (Military education)

BORISOGLEBSKIY, V.V., general-leytenant yustitsii, red.; KURGAN, V.G.,  
polkovnik, red.; KUZ'MIN, I.F., tekhn. red.

[In the presence of public opinion] Pered litsom obshchestven-  
nosti. Moskva, Voen.izd-vo M-va oborony SSSR, 1961. 255 p.  
(MIRA 15:1)

(Russia--Army--Military life)  
(Military discipline)

SHMELEV, M.G., kapitan 1 ranga; KURGAN, V.G., polkovnik, red.;  
SOKOLOVA, G.F., tekhn. red.

[Voluntary participation; development of voluntary participation in party and political work in units and on ships]  
Na obshchestvennykh nachalakh; o razvitií obshchestvennykh nachal v partiino-politicheskoi rabote v chastiakh i na korabliakh. Moskva, Voenizdat, 1963. 182 p.

(MIRA 16:7)

(Russia--Armed forces--Political activity)

ZHIGAYLO, Ya.V.; SHPAK, L.I.; GAYDEY, T.P.; DUCHINSKAYA, V.I.; RAKSHA, V.V.;  
Prinimali uchastiye: KURGANOV, A.; LANTSOVA, M.A.

Chemical transformations and phase transitions of a zinc-  
chromium catalyst of methanol synthesis. Khim.prom. no.1:  
29-34 Ja '63. (MIRA 16:3)

1. Institut fizicheskoy khimii imeni L.V.Pisarzhhevskogo AN UkrSSR.  
(Catalysts) (Methanol)

KURGANOV, A.I.

[Fundamentals of chassis design for tractors and automobiles] Osnovy ras-  
cheta shassi traktorov i avtomobilei. Moskva, Gos.izd-vo sel'khoz.lit-ry.  
1953. 611 p. (MIRA 6:7)  
(Tractor industry) (Automobiles--Design and construction)



KURGANOV, A. M., Cand Tech Sci -- (diss) "Investigation of the outflow of water through lateral run-off." Leningrad, 1960. 19 pp; with illustrations; (Ministry of Construction of Electric Power Stations USSR, All-Union Scientific Research Inst of Hydraulic Engineering im B. Ye. Vedeneyev); 270 copies; price not given; (KL, 51-60, 118)

KURGANOV, A. N.

AID - P-15

Subject : USSR/Engineering

Author : Kurganov, A. N., Eng., Moscow.

Title : Discussion of paper "Rational method of drying of fuel" by Gudemohuk, V. A., Miklaylov, N. M. and Fedorov, I. M. (Izv. V.T.I., No. 11, 1951).

Periodical : Izv. V.T.I., 21, No. 1, 18-21, Ja 1952.

Abstract : The author analyses various methods and arrangements of drying of pulverized coal with high moisture content proposed by the authors of the paper mentioned. On the basis of recent methods, the author suggests the solution of this problem with proper coordination of work of designing and scientific research organizations and with consideration of actual boiler installation and characteristics of coal to be used.

The analysis is illustrated by two charts, a diagrammatic arrangement, and four tables with operational data.

Institutions : Special design office of the Ministry of Electric Power Plants.  
Central Sc. Res. Inst. for Boiler and Turbines im. I. I. Polzunov.  
Moscow Regional Power System Adm.

Submitted : October 10, 1952.

KURGANOV, B.G.

**AUTHORS:** Kurbanov, M.V. (Dr. Tech. Sci.), Luchkov, G.I. (Engineer);  
 Valcher, A. (Eng. Master); Pavlov, L.I. (Engineer);  
 and Kurbanov, B.G. (Engineer) of Shot-Blasting Installations  
**TITLE:** Experience of the Removal of Shot-Blast Installations  
 for Removing Ash Deposits from Boiler Heating Surfaces

**PERIODICAL:** Teploenergetika, 1959, No. 10, pp 49-54 (USSR)

**ABSTRACT:** Previous articles in Teploenergetika No. 12, 1957, and  
 No. 1, 1958, described the use of shot-blasting to clean  
 boilers type B-230-2 at the Osk Heat and Electric Power  
 Station when burning fuel oil of high ash, and high  
 sulphur content. Subsequently the design of the equipment  
 was improved and it was tried out at a number of power  
 stations burning anthracite dust, including the Krestovskaya  
 power station on the Moscow River. Shot-blasting with  
 anthracite dust is carried out on heating surfaces which  
 become contaminated and shot-blasting equipment was  
 installed on boilers of 110 tons per hour operating at  
 steam conditions of 122 ats. and 495°C. The boilers are  
 briefly described; the proportion of unburned material  
 in their carry-over is of the order of 8-12%. Until the  
 shot-blasting installation was put in, the boilers could

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operate for 1 to 1 1/2 months, during which the resistance  
 of the convection duct increased by more than 100 mm water  
 and the outgoing flue gas temperature rose by 25-30°C.  
 Typical curves showing the increase in resistance and flue  
 gas temperature during a month's operation are given in  
 Fig. 1. The shot-blasting installation was generally  
 similar to that previously described, but various changes  
 were made and are described in some detail. Outline  
 drawings of the modified shot-blasting installations are  
 given in Fig. 2. To reduce losses of shot, the  
 shot traps were connected to the Com. Allotment  
 in Fig. 3, it was found necessary to fit pieces of wire  
 mesh at the conical shutters at the bottom of the  
 shot traps so that a certain amount of air could leak  
 round the shutter and equalize the pressure above it.  
 The results of pressure measurements using the modified  
 shutter are plotted in Fig. 5. Minor modifications were  
 made to the ash bunkers to prevent loss of shot to them.  
 The shot bunkers were made of conical section instead of  
 square, and the shot feeders were modified; a new type of

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shutter being used. A few other modifications were also  
 made. To clean concrete heating surface efficiently  
 it is necessary to pass 200-300 kg of shot per square  
 metre of duct section. The area of the convection ducts  
 of the boilers in question is 2700 m<sup>2</sup>. The shot-blasting  
 equipment is of the type B-230-2, which corresponds  
 to 130 kg/m<sup>2</sup>. If the equipment is used regularly an  
 operating time of one hour twice a shift is satisfactory.  
 Tests were made to see whether shot-blasting could be used  
 to clean up badly-contaminated surfaces. The results are  
 plotted in Fig. 7 and it will be seen that although about  
 9 tons of shot were passed through the convection duct  
 there was a reduction either in the resistance to flow or  
 in the flue gas temperature. Subsequent examination  
 showed that some of the shot was resting on top of the  
 existing deposits, which were not being removed by the  
 shot-blasting. To be effective the equipment must be  
 designed to remove the shot and the equipment must be used  
 regularly. Data on the resistance to flow and the gas  
 temperature during six weeks' operation with regular use  
 of the shot-blasting equipment are plotted in Fig. 8.

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The resistance to flow was maintained constant throughout  
 this period and variations in flue gas temperature  
 resulted only from variations in feed-water temperatures.  
 After 7 days' operation with shot-blasting, the  
 economizer and water heater remained clean and ash  
 deposits were found only in places not reached by the  
 shot. The loss of shot was about 10% of the total  
 quantity passed and this could be further reduced by  
 slight design changes for the purpose of stabilizing and the  
 installation for boilers of other types. Other

Card 4/4

KURGANOV, B.I.; AGATOVA, A.I.

Heat denaturation of muscle aldolase in rabbits, Biokhimiya 30  
no. 3:573-580 Ny-Ja '65 (MIRA 19:1)

1. Institut khimicheskoy fiziki AN SSSR, Moskva.

KULGANOV, B.I.; AGATOVA, A.I.

Heat denaturation of lactate dehydrogenase (L-lactate NAD-oxido-reductase, KF 1.1.1.27) and D-glyceraldehyde-3-phosphate dehydrogenase (D-glyceraldehyde-3-phosphate NAD-oxidoreductase, KF 1.2.1.12) from rabbit muscles. Biofizika 10 no.5:755-762 '65.

(MIRA 18:110)

1. Institut khimicheskoy fiziki AN SSSR, Moskva.

KURGANOV, B.I.

Heat aftereffect of ultraviolet irradiated lactic dehydrogenase  
from rabbit's muscles. Biofizika 10 no.5:875-876 '65.

(MIRA 18:10)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

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S/181/60/002/010/039/051  
B019/B056

24.7600 (1043, 6195)  
AUTHORS: Karasik, V. R. and Kurganov, G. B.

TITLE: The Concentration Effect in Germanium ↑

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 10, pp. 2594 - 2595

TEXT: From the quantum theory it is known that, if the concentration of the carriers depends on temperature, this concentration depends also on the magnetic field. In agreement herewith, the Hall constant increases exponentially with an increasing magnetic field. This effect is called the concentration effect. From the experimentally determined dependence of the Hall constant of Ge on the magnetic field at 20.4°K, which is shown in Fig. 1, it may be seen that up to a field strength of roughly 90 kilooersteds, the Hall constant remains constant. From 90 to 250 kilooersteds, the Hall constant rises to double its value. Fig. 2 shows the transverse magnetic resistance of a sample as a function of the magnetic field. Above a field strength of 90 kilooersteds, this resistance does not increase linearly. Fig. 3 shows the reciprocal mobility as a function

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The Concentration Effect in Germanium

S/181/60/002/010/039/051  
B019/B056

of the magnetic field for the same experimental conditions. Also here a change in the dependence may be observed at 90 kilooersteds. Investigations carried out at 77°K showed that up to 250,000 oersteds the Hall constant does not depend on the magnetic field. Particular attention is drawn to the fact that at 20.4°K the dependence of the Hall constant on the magnetic field is linear above 90 kilooersteds and not exponential. This is due to the fact that the carrier concentration is only a weak function of temperature. There are 3 figures and 7 references: 3 Soviet and 4 US.

ASSOCIATION: Fizicheskii fakul'tet Moskovskogo universiteta  
(Department of Physics of Moscow University)

SUBMITTED: February 20, 1960

Card 2/2

L 39547-66 EWT(m)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/NW/JG/GD

ACC NR: AT6014752

SOURCE CODE: UR/0000/65/000/000/0072/0075

AUTHORS: Baranov, I. A. (Candidate of technical sciences); Shmulevich, R. S.;  
Karasik, V. R.; Kurganov, G. B.

ORG: none

TITLE: Fabrication and study of wire from superconducting niobium-zirconium alloys

SOURCE: Soveshchaniye po metallovedeniyu i metallofiziko sverkhprovodnikov. Ist.  
1964. Metallovedeniye i metallofizika sverkhprovodnikov (Metallography and physics  
of metals in superconductors); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 72-  
75

TOPIC TAGS: superconductivity, superconducting alloy, electric wire, niobium alloy,  
zirconium alloy, current density, critical magnetic field, metal heat treatment,  
solenoid

ABSTRACT: The work of the Institute of Metallurgy im. A. A. Baykov (Institut  
metallurgii) on a semi-industrial level in producing wire from Nb-Zr alloy is dis-  
cussed. The starting materials were electron-beam smelted niobium with a hardness  
of 80--85 HB units and zirconium iodide in the form of rods with a diameter of 10--  
14 mm. Alloys with 40--50% Zr had the maximum hardness of 260--270 kg/mm<sup>2</sup>. Homog-  
enizing annealing of the ingots at 1200C for 24 hrs was tested. This caused ex-  
traction of the second phase with an increase in hardness. Alloys with 25--27% Zr

Card 1/2

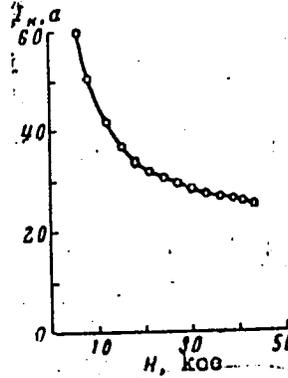
L 38547-66

3

ACC NR: AT6014752

had the maximum critical current density ( $4.6 \cdot 10^4$  a/cm<sup>2</sup>) (see Fig. 1).

Fig. 1. Critical current as a function of applied transverse magnetic field strength for short specimen of wire of Nb alloy with 26% Zr (wire diameter 0.2 mm).



The wires were tested in lengths of 20 m wound in solenoids with 350—400 turns. The maximum critical current density ( $1.1 \cdot 10^7$  a/cm<sup>2</sup>) is obtained with annealing at 1000C. The authors thank Doctor of Chemical Sciences Professor Ye. M. Savitskiy and Candidate of Technical Sciences V. V. Baron. Orig. art. has: 1 photograph, 2 graphs, and 1 table.

SUB CODE: 11, 20/ SUBM DATE: 23Dec65/ ORIG REF: 002

Card 2/2 *lll*

L 38539-66 EWT(m)/EWP(t)/ETI IJP(c) WW/JD/JG/GD

ACC NR: AT60L4758

SOURCE CODE: UR/0000/65/000/000/0101/0109

AUTHORS: Karasik, V. R.; Kurganov, G. B.; Yershov, V. G.; Shobalin, I. Yu.; Kopylovskiy, B. P.; Ivanov, V. S.

89

7 3  
B+1

ORG: none

TITLE: Superconducting solenoids of niobium alloys with zirconium

SOURCE: Soveshchaniye po metallovodeniyu i metallofizike sverkhprovodnikov. Ist, 1964. Metallovedeniye i metallofizika sverkhprovodnikov (Metallography and physics of metals in superconductors); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 101-109

TOPIC TAGS: superconductivity, superconducting alloy, niobium alloy, zirconium containing alloy, solenoid / S-60 solenoid, S-50 solenoid, B-3 solenoid, B-solenoid

ABSTRACT: Superconducting solenoids for creating high magnetic fields are discussed. A brief historical review is presented of the development of superconducting solenoids and of the use of niobium-zirconium alloys. Three equivalent circuits for a superconducting solenoid connected with a power supply are presented and discussed. Some of the physical problems of superconducting niobium-zirconium alloy solenoids and the means of overcoming them are given. The construction and properties of four superconducting solenoids (S-60, S-50, B-3, and B-1) are described. The solenoids are wound with 0.25-mm diameter wire of 75% Nb-25% Zr alloy which is

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L 38539-66

ACC NR: AT6014758

10

electrolytically coated with a 20  $\mu$  thick layer of copper. The fields attainable with these solenoids range up to 46 koo. Two of the solenoids (S-50 and B-1) were used together to produce a field of 51 $\frac{1}{2}$  koo. The schematic for a 6-V transistorized power supply, which is current-regulated in the range 0.2--75 a, is given. The authors thank B. M. Vul, corresponding member AN SSSR, for valuable advice; Ye. M. Savitskiy, V. V. Baron, M. B. Golant, I. A. Baranov, and R. S. Shmulevich for supplying the wire for fabricating the solenoids; G. T. Nikitina, V. I. Sarychev, G. I. Agapov, and I. A. Bocharov for help in the work. Orig. art. has: 4 equations, 3 tables, and 3 diagrams.

SUB CODE: 20/ SUBM DATE: 23Dec65/ ORIG REF: 004/ OTH REF: 011

Card

2/2 /  $\phi$

L 36123-66 EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/JG/GD  
ACC NR: AT6014760 SOURCE CODE: UR/0000/65/000/000/0115/0117

AUTHORS: Kurpanov, G. B.; Baranov, I. A. (Candidate of technical sciences); Karasik, V. S.; Shmalovich, R. S.

216  
12  
131

ORG: none

TITLE: Solenoid of niobium-titanium alloy

SOURCE: Soveshchaniye po metallovedeniyu i metallofizika sverkhprovodnikov. 1st, 1964. Metallovedeniye i metallofizika sverkhprovodnikov (Metallography and physics of metals in superconductors); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 115-117

TOPIC TAGS: superconducting alloy, niobium containing alloy, titanium containing alloy, solenoid, wire

ABSTRACT: The construction and testing of solenoids wound with superconducting wire of Ni - 50% (by wt) Ti alloy are described. The first solenoid, consisting of 12 369 turns of the 0.2-mm diameter wire wound on a 10.4-mm diameter tube, reached a field of 14.0 koe with a maximum current of 5.7a or a current density of  $1.6 \times 10^4$  a/cm<sup>2</sup> (at 4.2K). The solenoid was unwound and the wire was galvanically coated with a 50  $\mu$  thick copper layer and insulated with Aquadag. It was found that copper plating significantly embrittled the wire, possibly because of hydrogen diffusion and the

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L 36123-66

ACC NR: AT6014760

formation of titanium hydride. The wire was rewound on the same form, producing a second solenoid of 9109 turns. The maximum current for this solenoid was 6.8a or a current density of  $2.2 \times 10^4$  a/cm<sup>2</sup> (also at 4.2K). However, the field reached only 11.4 koe due to a reduced filling factor. The obtained results agree well with published data for short samples of the Ni<sub>2</sub>Ti alloy. The authors thank B. N. Vul, corresponding member AN SSSR, and N. B. Golant, doctor of technical sciences, for their interest in the work and valuable advice. Orig. art. has: 2 figures.

SUB CODE: 09,11/

SUBM DATE: 23Dec65/

ORIG REF: 001/

OTH REF: 005

Card 2/2 *UB*

L 36122-66 EWT(m)/EWP(t)/ETI IJP(c) WW/JD/JG/GD

ACC NR: AT6014761

SOURCE CODE: UR/0000/65/000/000/0118/0119

AUTHORS: Kurganov, G. B.; Baranov, I. A. (Candidate of technical sciences); Karasik, V. R.; Sviridonov, M. N.; Shmulevich, R. S.; Novokreshchenova, V. B.; Sentyurina, N.H.

ORG: none

TITLE: Device for investigating the critical current in superconductors and its application for studying the effect of iron impurity on the superconducting properties of niobium-zirconium alloy

SOURCE: Soveshchaniye po metallovedeniyu i metallofizike sverkhprovodnikov. 1964. Metallovedeniye i metallofizika sverkhprovodnikov (Metallography and physics of metals in superconductors); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 118-119

TOPIC TAGS: superconductivity, critical magnetic field, superconducting alloy, niobium alloy, zirconium containing alloy, iron containing alloy, solenoid, *physics*

*laboratory instrument*  
ABSTRACT: A device is described for measuring the critical current of short wire samples as a function of the external transverse magnetic field (range 0--40 koe) (see Fig. 1). The magnetic field is created by a solenoid with windings of niobium-zirconium wire, whose construction was described in the preceding article (V. R. Karasik, G. B. Kurganov, V. G. Yershov, I. Yu. Shebalin, B. D. Kopylovskiy, and V. S. Ivanov. Present compilation, p. 101). The device was used for investigating the properties of 0.2-mm diameter wire of Nb - 26% Zr alloy alloyed with iron (0.5, 0.4,

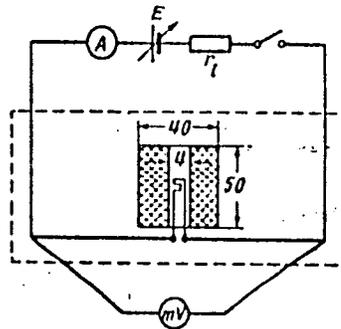
Card 1/2

L 36122-66

ACC NR: AT6014761

2

Fig. 1. Schematic of device for investigating the critical current in superconductors. Dotted line indicates volume at  $T = 4.2K$ , cross-hatched area indicates solenoid creating magnetic field (dimensions in mm).



0.2, and 0.008% Fe). In general, an increase in Fe content decreased the magnitudes of both the critical current and the critical field. The authors thank B. M. Vul, corresponding member AN SSSR, and M. B. Golant, doctor of technical sciences, for interest in the work and valuable advice. Orig. art. has: 2 diagrams.

SUB CODE: 20/09/SUBM DATE: 23Dec65/ ORIG REF: 001

Card 2/2 *llb*

L 21845-66 EPF(n)-2/EWT(m)/T/EWP(w)/EWP(t) IJP(c) WW/AD/SG

ACC NR: AP6010403 SOURCE CODE: UR/0126/66/021/003/0379/0383

AUTHOR: Shmulevich, R. S.; Baranov, I. A.; Karasik, V. R.; Kurganov, G. B.

ORG: none

45  
B

TITLE: Effect of microheterogeneity on the characteristics of superconductivity of Nb-Zr-Ta alloy

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 3, 1966, 379-383

TOPIC TAGS: niobium alloy, zirconium containing alloy, tantalum containing alloy, superconductive alloy, alloy structure, alloy superconductivity

ABSTRACT: In a search for new superconducting materials, a niobium-base alloy containing 35% zirconium and 15% tantalum has been tested for the effect of structural microheterogeneity on the magnitude of critical current density. Two alloy ingots were melted in an electron-beam furnace and cooled at different rates. The slowly cooled ingot had a homogeneous structure and a resistivity of 49.9  $\mu\text{ohm}\cdot\text{cm}$ . In the rapidly cooled ingots the dendrites were niobium- and tantalum-rich and the matrix was zirconium-rich; the resistivity of this ingot was 54.4  $\mu\text{ohm}\cdot\text{cm}$ . Both ingots were conditioned by machining to a diameter of 4 mm, preforged, and cold drawn into wire 0.2 mm in diameter. The size of

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UDC: 539.292:548.0:537.312.62

L 21845-66

ACC NR: AP6010403

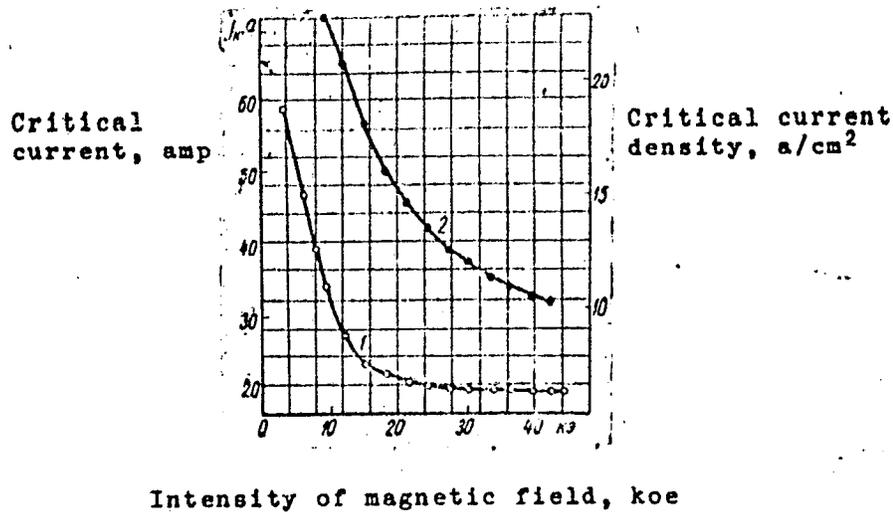


Fig. 1. Critical current density for Nb-Zr-Ta alloy versus intensity of magnetic field

heterogeneous areas in the wire obtained from the rapidly cooled ingot was 1000—1500Å, i.e., of the same order as the depth of magnetic-field

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L 21845-66

ACC NR: AP6010403

penetration into a superconductor. The heterogeneous alloy was found to have a considerably higher critical current density than that of homogeneous alloy (see Fig. 1). The upper critical field of the former exceeds, apparently, 70 koe. Orig. art. has: 3 figures. [DV]

SUB CODE: 11, 20/ SUBM DATE: 31May65/ ORIG REF: 004/ OTH REF: 006  
ATD PRESS: 4227

Card 3/3 not

NIKISHOV, A.S., inzhener; KURGANOV, G.V., inzhener; SUTINA, Yu.A., inzhener.

Heat temperature in hardening alloy AK-4. Vest.mash. 33 no.10:58-59 0 '53.  
(MIRA 6:10)  
(Alloys)



*Kurganov, G.V.*  
AUTHORS: Nikishov, A.S., Kurganov, G.V. and Yarzhemksaya, N. I.,  
Engineers. 129-12-10/11

TITLE: Influence of deep anodizing on the fatigue strength  
of the aluminium alloys AK-4 and BA-17.  
(Vliyaniye glubokogo anodirovaniya na ustalostnuyu  
prochnost' alyuminiyevykh splavov AK-4 and VD-17)

PERIODICAL: Metallovedeniye i Obrabotka Metallov, 1957, No.12,  
pp. 66-68 (USSR)

ABSTRACT: The Institute of Physical Chemistry, Ac.Sc., U.S.S.R.  
(Institut Fizicheskoy Khimii AN SSSR) has studied the  
physical and chemical properties of thick anodised layers  
obtained at below freezing point temperatures in a  
sulphuric acid electrolyte. Thus produced films have a  
high hardness and wear resistance, a high porosity,  
lubricant capacity, heat resistance, good anti-corrosive  
properties and also good thermal and electrical insulation  
properties. The authors considered it of great interest  
to study the influence of deep anodising on the fatigue  
strength of aluminium components operating under  
conditions of vibration and, therefore, the aim of the  
work described in this paper was to establish the  
Card 1/2 influence of 70 to 80  $\mu$  thick anodic films on the fatigue

Influence of deep anodising on the fatigue strength of the aluminium alloys AK-4 and BA-17. <sup>129-12-10/11</sup>

strength of the aluminium alloys AK-4 and BA-17 operating in the temperature range 20 to 200°C. The results of the experiments, graphed in Figs. 3 and 4, show that deep anodising with a film of 70 to 80 μ thick reduces appreciably the fatigue limit of the tested aluminium alloys, the actual values of the reduction varying between 45 and 65%.

There are 4 figures and one table.

AVAILABLE: Library of Congress.

Card 2/2

SOV/129-58-10-5/14

AUTHORS: Kurganov, G. V., Candidate of Technical Science and  
Sutina, Yu. A., Engineer

TITLE: Failure of High Temperature Alloys Caused by Cyclic  
Temperature and Stress Variations (Razrusheniye  
zharoprochnykh splavov pri tsiklicheskiikh izmeneniyakh  
temperatury i napryazheniya)

PERIODICAL: Metallovedeniye i Obrabotka Metallov, 1958, Nr 10,  
pp 23-27 (USSR)

ABSTRACT: In the work described in this paper, which was carried  
out under the leadership of Professor S. T. Kishkin,  
the simultaneous influence was studied on the strength  
and creep of cyclically changing temperatures and stresses.  
The influence of cyclic temperature and stress changes on  
the strength was determined by comparing the time to  
failure of the specimen under static and cyclic test  
regimes. The tests were carried out on a tensile test  
machine, a sketch of which is given in Fig.1, which enabled  
maintaining constant the temperature and the stress. The  
temperature was automatically controlled with an accuracy  
of  $\pm 3^{\circ}\text{C}$ . The cyclic tensile tests were effected on a  
Card 1/3 machine which is also sketched in Fig.1. After an hour,

SOV/129-58-10-5/14  
Failure of High Temperature Alloys Caused by Cyclic Temperature and Stress Variations

the load was relieved and the specimen was cooled down to 150°C and then the cycle was repeated. The chemical compositions of some of the tested steels are entered in Table 1; a sketch, Fig.2, shows the shape and size of the test specimens. The following conclusions are arrived at:

- 1) The mechanism of softening and failure of the specimens of the tested alloys EI437A, EI437B, EI617, Zhs3 and Zhs6 under conditions of long duration operation at elevated temperatures consists in the formation and development of cracks which extend in most cases along the grain boundaries.
- 2) The development of cracks at elevated temperatures is assisted by the brittle components of the intermetallide phase and also by low melting point admixtures: lead, bismuth, sulphur, etc. which are present along the grain boundaries. Some of these admixtures are surface active, they reduce the surface energy along the grain boundaries and reduce the resistance of the material against formation of cracks and fracture.

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SOV/129-58-10-5/14

Failure of High Temperature Alloys Caused by Cyclic Temperature and Stress Variations

- 3) Periodic stress and temperature changes reduce considerably the time to failure due to the intensive formation and development of cracks on the specimen surface.
  - 4) Small additions of lead bring about premature failure in long duration tests, particularly in the case of cyclic loading.
- There are 5 figures and 4 tables.

1. Heat resistant alloys—Failure Test methods    2. Heat resistant alloys—  
3. Heat resistant alloys—Stresses

Card 3/3

AUTHORS: Zakharova, G.V., Popov, I.A., Zhorova, L.P. and Kurganov, G.V. SOV/136-59-1-16/24

TITLE: Use and Properties of Niobium (Primeneniye i svoystva niobiya)

PERIODICAL: Tsvetnyye Netally, 1959, Nr 1, pp 73-79 (USSR)

ABSTRACT: After outlining the uses of niobium the authors tabulate some published (Refs 3,4) data on its physical properties. They discuss published data on the mechanical properties of the metal, noting divergencies and the absence of high-temperature (over 550°C) data, and describe their own experiments in this field. These gave more accurate room-temperature and also some high-temperature values for the cast metal. Ingots were prepared by melting 99.6% (Nb + Ta) rods in a VIAM arc furnace at a pressure of  $10^{-4}$  mm Hg. The ingots were deformed to 70-80% after annealing at  $10^{-4}$  mm Hg and 1800-2000°C to remove oxygen and other gases: results are given in Table 1, and at 1400-1600°C in argon or helium. Deformation was carried out under the direction of I.G. Skugarev and S.B. Pevzner. Fig 1 shows the microstructures of the cast (left),

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forged, (middle) and recrystallized (right) metal. The room temperature values of tensile strength, yield-point strength, relative elongation, reduction in cross-sectional area and the hardness are given in Table 2 for niobium in the cast, pressed and pressed-and-vacuum-annealed states; Table 3 gives data for 1000, 1050 and 1100°C. Fig 2 shows the change in the time to fracture at a constant stress of 15 kg/mm<sup>2</sup> for the deformed and for the cast metal while Fig 3 shows the modulus of elasticity, kg/mm<sup>2</sup>, (left hand scale; triangles, points and crosses for hardened, deformed and recrystallized specimens) and the logarithmic damping decrement for recrystallized specimens. The moduli of elasticity were determined in the institut mashinovedeniya AN SSSR (Machine Institute of the AS USSR) under the direction of M.G. Lozinskiy. An interesting result is that the modulus does not decrease with increasing temperature; this may be due to the presence of impurities. It was found that (Table 4) with increasing oxygen content (from 0.02 - 0.24%) the tensile strength increases from

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53 to 103 kg/mm<sup>2</sup>, the yield-point strength from 40 to 99.5 and Brinell hardness from 120 to 320, while the relative elongation falls from 26 to 10%. When the carbon-content of a specimen was increased to 0.3% the tensile strength fell somewhat while the relative elongation remained sufficiently high. In the specimens used the hydrogen, nitrogen and normal carbon-contents were 0.001-0.005%, 0.005-0.01% and 0.04-0.05%, respectively. Finally, the authors outline the oxidation of niobium as reported in English (Refs 8,10,11,12) and German (Ref 9) publications. There are 5 figures, 4 tables and 12 references, 3 of which are Soviet, 8 English and 1 German.

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